

CLAIM AMENDMENTS

Claim Amendment Summary

Claims pending

- Before this Amendment: Claims 9-14, 17-23 and 33.
- After this Amendment: Claims 9-14, 17-23 and 33-35

Non-Elected, Canceled, or Withdrawn claims: None

Amended claims: 9-10, 12-13, 17-20, 22-23 and 33

New claims: 34-35

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. - 8. (Canceled)

9. (Currently Amended): A method comprising:

initializing, by a native operating system (OS) on a local machine, a logon user interface (UI);

initializing, with the logon UI on the local machine, a plurality of different coexisting credential provider modules, each for translating respectively different types of credentials into a common credential protocol, the common credential protocol being compatible with the native OS of the local machine, each said credential provider module enabling a user to log on with the native OS on the local machine via the logon UI to access the local machine using one of a

plurality of corresponding different input devices that are capable of being in communication with the local machine;

receiving a first said credential from a-the user at an-a first one of said input devices in communication with a the local machine having a native operating system (OS), the local machine capable of being in communication with a plurality of different input devices each configured to enable the user to log on with the native OS to access the local machine;

translating the first credential with one of a plurality of different coexisting a first one of said credential provider modules corresponding to the first for translating respectively different types of credentials into a common credential protocol, the common credential protocol being compatible with the native OS of the local machine, and the plurality of different coexisting credential provider modules also enabling the user to log on with the native OS to access the local machine with each corresponding different input device that is in communication with the local machine;

communicating the translated first credential having the common credential protocol through a credential provider Application Program Interface (API) to a the logon user interface (UI) routine of the native OS, wherein the credential provider API is configured to interface with each of the plurality of different coexisting credential provider modules;

passing the translated first credential having the common credential protocol to an OS logon module routine of the native OS from the logon UI routine;

calling the OS logon module routine for the native OS to authenticate the translated credential having the common credential protocol against a credential database; and

logging the user on with the native OS to access the local machine when the authentication is successful.

10. (Currently Amended): The method as defined in Claim 9, wherein the logging on of the user ~~on~~ further comprises logging the user on to the local machine after a plurality of one or more additional said credentials have been received, translated by a respective said different coexisting credential provider module, and authenticated successfully, in addition to said first credential.

11. (Original): The method as defined in Claim 9, wherein the user is not logged on to the local machine at the time when the translated credentials are authenticated.

12. (Currently Amended): The method as defined in Claim 9, wherein the use of the ~~component~~ OS logon module of the native OS to authenticate the translated first credential having the common credential protocol against the credential database further comprises:

- communicating the translated credential to an LSA; and
- determining the authentication with the LSA against the credential database that is selected from the group consisting of:
 - a SAM database;
 - a local database other than the SAM database;
 - a remote credential database;
 - a token protocol credential service;
 - a challenge and response protocol service; and
 - an AD and KDC at a domain remote from the local machine.

13. (Currently Amended): The method as defined in Claim 9, further comprising:
initializing one or more pre-logon access provider (PLAP) modules at the
local machine coexisting with said credential provider modules, each PLAP
module being interoperable with the OS of the local machine for enabling the
user to select a logon connection type out of a plurality of logon connection
types for establishing a network connection; and
establishing by a selected one of said one or more PLAP modules a
network connection from the local machine to a domain using the translated first
credential~~-wherein each said credential provider module is interoperable, through~~
~~a credential provider API, to the component of the native OS.~~

14. (Original): A computer-readable medium comprising instructions that, when executed by a computer, perform the method of Claim 9.

15. - 16. (Canceled)

17. (Currently Amended): A method comprising:
initializing, by a native operating system (OS) on a local machine, a logon
user interface (UI);
initializing, with the logon UI on the local machine, a plurality of different
coexisting credential provider modules, each said credential provider module
configured to perform a translation of a respectively different type of credential
received at a different type of input device in communication with the local
machine for translating the respectively different types of credentials into a
common credential protocol, the common credential protocol being compatible
with the native OS of the local machine, wherein each said credential provider
module enables a user to log on with the native OS on the local machine via the

logon UI to access the local machine using one of a plurality of corresponding different input devices that are capable of being in communication with the local machine;

receiving a first credential from a the user at an a first one of said input devices in communication with a the local machine having a native operating system (OS), the local machine capable of being in communication with a plurality of different input devices, each capable of receiving a credential from the user to enable the user to log on to access the local machine with the native OS;

translating the first credential with a first one of said credential provider modules that corresponds to the first input device; wherein:

the credential provider module is one of a plurality of coexisting different said credential provider modules; and

—each said credential provider module can perform a translation of a respectively different type of said credential received at a different said input device in communication with the local machine; and

—each said translation of each said credential is in a common credential protocol, the common credential protocol being compatible with the native OS of the local machine;

communicating the translated first credential having the common credential protocol through a credential provider interface to a the logon user interface (UI) routine of the native OS, wherein the credential provider interface is configured to interface with each of the plurality of coexisting different said credential provider modules;

passing the translated first credential having the common credential protocol to a logon routine of the native OS from the logon UI routine;

authenticating the translated first credential against a credential database with the logon routine of the native OS; and

logging the user on to access the local machine with the native OS when the authentication is successful.

18. (Currently Amended): The method as defined in Claim 17, wherein the logging on of the user ~~on~~ to access the local machine with the native OS further comprises deferring the logging on of the user to access the local machine until the receiving, the translating, the communicating, the passing, and the authenticating successfully have been repeated for ~~each of a plurality of~~ at least one more additional said credentials in addition to said first credential.

19. (Currently Amended): The method as defined in Claim 17, wherein the user is not logged on to access the local machine ~~when~~ until after the translated first credential ~~is~~ are authenticated against the credential database with the logon routine of the native OS.

20. (Currently Amended): The method as defined in Claim 17, wherein the authenticating of the translated first credential against the credential database with the logon routine of the native OS further comprises:

communicating the translated credential to an LSA from the logon routine of the native OS; and

determining the authentication with the LSA against the credential database that is selected from the group consisting of:

- a SAM database;
- a local database other than the SAM database;
- a remote credential database;

a token protocol credential service;
a challenge and response protocol service; and
an AD and KDC at a domain remote from the local machine.

21. (Original): A computer-readable medium comprising instructions that, when executed by a computer, perform the method of Claim 17.

22. (Currently Amended): A computer-readable medium comprising a plurality of different coexisting credential provider modules initialized with a logon user interface (UI) by a native operating system (OS) on a local machine, each including instructions that, when executed by ~~a the local machine having a native operating system (OS)~~, receive and translate a credential into a common credential protocol so as to be compatible for authentication by an authentication component of the native OS against a credential database for logging a user identified by the credential on with the native OS to access the local machine when the authentication is successful, wherein:

the translated credential is received via a credential provider Application Programming Interface (API) of the authentication component of the native OS;

the credential provider API of the authentication component of the native OS is compatible for receiving each of a plurality of said credentials from a corresponding plurality of different coexisting credential provider modules; and

each said different coexisting credential provider module can:

receive a respective different type of said credential from a respective input device, each respective input device capable of coupling to the local machine and enabling the user to log on with the native OS to access the local machine; and

translate each said different type of said credential into the credential protocol so as to be compatible for authentication by the authentication component of the native OS against the credential database.

23. (Currently Amended): The computer-readable medium as defined in Claim 22, wherein the authentication component of the native OS comprises:

- a ~~the~~ logon user interface (UI) module;
- an OS logon module for receiving Remote Procedure Call (RPC) calls from the logon UI module; and
- an LSA for determining the authentication, and in communication with, the credential database that is selected from the group consisting of:
 - a SAM database;
 - a local database other than the SAM database;
 - a remote credential database;
 - a token protocol credential service;
 - a challenge and response protocol service; and
 - an AD and KDC at a domain remote from the local machine.

24. - 32. (Canceled)

33. (Currently Amended): A method comprising:

initializing, by a native operating system (OS) on a local machine, a logon user interface (UI);

initializing, with the logon UI on the local machine, a plurality of different coexisting credential provider modules, each said credential provider module configured to perform a translation of a respectively different type of credential received at one of a plurality of different types of input devices in communication

with the local machine for translating the respectively different types of credentials into a common credential protocol, the common credential protocol being compatible with the native OS of the local machine, wherein each said credential provider module enables a user to log on with the native OS on the local machine via the logon UI to access the local machine using one of the plurality of corresponding different input devices in communication with the local machine;

receiving a first credential from the user at a first said input device in communication with the local machine;

receiving a second credential from the user at a second said input device in communication with the local machine;

translating the first credential into the common credential protocol using a first one of the credential provider modules corresponding to the first input device that is in communication with the local machine;

translating the second credential into the common credential protocol using a second one of the credential provider modules corresponding to the second input device that is in communication with the local machine;

using a component of the OS to authenticate the translated first credential and second credential having the common credential protocol against a credential database; and

logging the user on with the OS to access the local machine when the authentication of both the first credential and the second credential is successful.

34. (New): A method comprising:

initializing, by a native operating system (OS) on a local machine, a logon user interface (UI);

initializing with the logon UI on the local machine a plurality of different coexisting credential provider modules, each for translating respectively different types of credentials into a common credential protocol, the common credential protocol being compatible with the native OS of the local machine, each said credential provider module enabling a user to log on with the native OS on the local machine via the logon UI to access the local machine using one of a plurality of corresponding different input devices that are capable of being in communication with the local machine;

initializing one or more pre-logon access provider (PLAP) modules at the local machine coexisting with said credential provider modules, each PLAP module being interoperable with the OS of the local machine for enabling the user to select a logon connection type out of a plurality of logon connection types for establishing a network connection;

receiving a first said credential from the user at a first one of said input devices in communication with the local machine;

translating the first credential with a first one of said credential provider modules corresponding to the first input device that is in communication with the local machine;

establishing by a selected one of said PLAP modules a network connection from the local machine to a domain using the translated first credential;

communicating the translated first credential having the common credential protocol through a credential provider interface to the logon UI of the native OS, wherein the credential provider interface is configured to interface with each of the plurality of coexisting different said credential provider modules;

passing the translated first credential having the common credential protocol to a logon routine of the native OS from the logon UI;

authenticating the translated first credential against a credential database with the logon routine of the native OS; and

logging the user on to access the local machine with the native OS when the authentication is successful.

35. (New): A method comprising:

initializing, by a native operating system (OS) on a local machine, a logon user interface (UI);

initializing, with the logon UI on the local machine, a plurality of different coexisting credential provider modules, each said credential provider module configured to perform a translation of a respectively different type of credential received at a different type of input device in communication with the local machine for translating the respectively different types of credentials into a common credential protocol, the common credential protocol being compatible with the native OS of the local machine, wherein each said credential provider module enables a user to log on with the native OS on the local machine via the logon UI to access the local machine using one of a plurality of corresponding different input devices that are capable of being in communication with the local machine;

allowing a user to choose one of said plurality of different types of input devices to be used for logging on;

receiving a first credential from the user via a selected first one of said input devices in communication with the local machine;

translating the first credential with a first one of said credential provider modules that corresponds to the first input device;

communicating the translated first credential having the common credential protocol through a credential provider interface to the logon UI of the native OS, wherein the credential provider interface is configured to interface with each of the plurality of coexisting different said credential provider modules; passing the translated first credential having the common credential protocol to a logon routine of the native OS from the logon UI; authenticating the translated first credential against a credential database with the logon routine of the native OS; and logging the user on to access the local machine with the native OS when the authentication is successful.